# The Strait of Georgia Ichthyoplankton Survey, 1981. Ichthyoplankton. Northern Cruises 3 and 6 (March 12-13 and April 9-10)

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# THE STRAIT OF GEORGIA ICHTHYOPLANKTON SURVEY, 1981. ICHTHYOPLANKTON. NORTHERN CRUISES 3 AND 6 (MARCH 12-13 AND APRIL 9-10)

by

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## ABSTRACT

Mason, J. C., O. D. Kennedy, and A. C. Phillips. 1982. The Strait of Georgia Ichthyoplankton Survey, 1981. Ichthyoplankton. Northern cruises 3 and 6 (March 12-13 and April 9-10). Can. Data Rep. Fish. Aquat. Sci. No. 362: iv + 49 p.

This report contains a compilation of corrected catches of juvenile fishes, fish eggs and fish larvae by station, in computer printed format, for the two northern cruises. These cruises were two days in duration and were conducted on the M.V. CALIGUS.

While the survey encompassed the entire length of the Strait of Georgia and Malaspina Strait, these two cruises were concerned with northern Georgia Strait and Malaspina Strait.

Oblique tows were made using 0.25 $m^2$ Bongos equipped with 351 micron Nitex nets of modified SCOR design. All sampling gear was black to minimize potential avoidance and resulting catch bias. The tow procedure generally followed that established by CALCOFI.

Key words: Ichthyoplankton, Strait of Georgia.

## RESUME

Mason, J. C., O. D. Kennedy, and A. C. Phillips. 1982. The Strait of Georgia Ichthyoplankton Survey, 1981. Ichthyoplankton. Northern cruises 3 and 6 (March 12-13 and April 9-10). Can. Data Rep. Fish. Aquat. Sci. No. 362: iv + 49 p.

Le présent rapport contient une compilation par station, sous forme d'un imprimé d'ordinateur, des prises corrigées de poissons juvéniles, d'oeufs et de larves de poisson pour les deux expéditions septentrionales du CALIGUS, d'une durée de deux jours.

Quoique ce levé porte sur toute la longueur des détroits de Géorgie et de Malaspina, il se concentre surtout sur la partie septentrionale de ces entités géographiques.

Des traits obliques ont été effectués à l'aide d'engins de type bongo de 0,25 $m^2$ munis de filets Nitex de 351 microns de conception CRSO modifiée. Tout l'équipement est de couleur noire afin de minimiser l'évitement potentiel qui se traduit par un facteur d'inexactitude pour les

prises. La méthode de chalutage suit généralement celle établie pour le programme CALCOFI.

Mots-clés: ichthyoplancton, détroit de Géorgie

## ORIENTATION AND METHODOLOGY

The Strait of Georgia Ichthyoplankton Survey (1981) was conducted by staff of the Groundfish Program of the Pacific Biological Station, Nanaimo (Fisheries Research Branch). The survey involved eleven cruises of which two were northern cruises covering the Strait of Georgia and Malaspina Strait from north of the Ballenas Islands to a point just south of Mitlenatch Island. The remaining nine cruises covered the central and southern Strait of Georgia in standardized cruises. This report concerns all oblique tows taken in the two northern cruises. The other nine are reported elsewhere.

The 1981 survey was mainly a routine survey to provide distribution patterns of fish eggs and larvae and to give an estimate of total biomass of resident hake and walleye pollock stocks. This northern portion helps to describe the limits of the spawning stock found in the main body of the Strait of Georgia. A total of 23 stations were occupied once in early March and again around mid-April (Fig. 1). The stations are listed by number, location, (latitude and longitude) and depth in Table 1.

All tows were made using $0.25^2$ Bongos equipped with 351 micron Nitex nets of modified SCOR design, and General Oceanics center-mounted flow meters. A 90 kg cylindrical weight was suspended from the yoke of the Bongos. All sampling gear was black to minimize potential avoidance and resulting catch bias.

The tow procedure for oblique tows generally followed that established by CALCOFI: vessel speed of 1 m/s, gear descent at a cable pay-out rate of 50 m/min, and gear ascent at a cable recovery rate of 20 m/min. Tows were made to within 20 m of the sea floor at all stations.

The recovered nets were thoroughly washed down with a high-pressure deck hose and the resulting catches were preserved in 5% buffered seawater formaldehyde for processing ashore. In the laboratory, fish, fish eggs, and larvae, euphausiids and other selected invertebrate groups were extracted from one-net catches. The entire catches from the other net were retained in a raw reference collection for future use.

The following data base consists of corrected catches of juvenile fishes, fish eggs and fish larvae, identified to the lowest possible systematic categories considering the present state of knowledge of Canadian Pacific ichthyoplankton.

Sampling station locations.

| Station No. | Location | Depth (m) |
|---|---|---|
| 1 | 49° 22.8'N 124° 10.3'W | 350 |
| 2 | 49° 24.2'N 124° 18.5'W | 346 |
| 3 | 49° 25.7'N 124° 24.0'W | 344 |
| 4 | 49° 27.8'N 124° 29.7'W | 325 |
| 5 | 49° 30.8'N 124° 27.6'W | 192 |
| 6 | 49° 34.2'N 124° 23.4'W | 346 |
| 7 | 49° 37.2'N 124° 29.5'W | 288 |
| 8 | 49° 40.1'N 124° 35.1'W | 373 |
| 9 | 49° 43.1'N 124° 40.8'W | 334 |
| 10 | 49° 46.0'N 124° 46.5'W | 340 |
| 11 | 49° 49.0'N 124° 52.2'W | 305 |
| 12 | 49° 52.0'N 124° 57.6'W | 289 |
| 13 | 49° 55.6'N 124° 02.5'W | 281 |
| 14 | 49° 55.8'N 124° 57.0'W | 228 |
| 15 | 49° 52.4'N 124° 52.0'W | 286 |
| 16 | 49° 50.5'N 124° 45.0'W | 172 |
| 17 | 49° 50.0'N 124° 36.2'W | 260 |
| 18 | 49° 46.3'N 124° 30.7'W | 318 |
| 19 | 49° 44.5'N 124° 24.0'W | 317 |
| 20 | 49° 41.1'N 124° 18.5'W | 273 |
| 21 | 49° 37.7'N 124° 13.4'W | 346 |
| 22 | 49° 34.0'N 124° 08.8'W | 378 |
| 23 | 49° 29.5'N 124° 05.7'W | 403 |

TABLE: 1
CRUISE: SG 81- 3
SAMPLE NO.: 1
DATE: 12/ 3/81
VESSEL: CALIGUS
POSITION: 49 22.8 N 124 10.3 W
GRID POSITION: 85 . 35
BOTTOM DEPTH: 333 M

WIND DIRECTION: 315 DEG
WIND VELOCITY: 1 MPS
WAVE HEIGHT:
SWELL HEIGHT: 0 M
SURFACE TEMP: 8.6 C
STD NUMBER:
BT/XBT NUMBER:
TIME OF TOW: 0740 HR
DEPTH OF TOW: 306 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 348 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 8.80

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| PISCES | 2. | 2.8 | 5.7 | 17.6 |
| LEUROGLOSSUS STILBIUS | 15. | 21.1 | 43.1 | 132.0 |
| MERLUCCIUS PRODUCTUS | 49. | 69.0 | 140.8 | 431.2 |
| THERAGRA CHALCOGRAMMA | 2. | 2.8 | 5.7 | 17.6 |
| LYOPSETTA EXILIS | 3. | 4.2 | 8.6 | 26.4 |
| TOTAL | 71. | 100.0 | 204.0 | 624.8 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 21. | 80.8 | 60.3 | 184.8 |
| MERLUCCIUS PRODUCTUS | 1. | 3.8 | 2.9 | 8.8 |
| THERAGRA CHALCOGRAMMA | 4. | 15.4 | 11.5 | 35.2 |
| TOTAL | 26. | 100.0 | 74.7 | 228.8 |

| JUVENILES | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 1. | 100.0 | 2.9 | 8.8 |
| TOTAL | 1. | 100.0 | 2.9 | 8.8 |

TABLE: 2
CRUISE: SG 81- 3
SAMPLE NO.: 2
DATE: 12/ 3/81
VESSEL: CALIGUS
POSITION: 49 24.2 N 124 18.5 W
GRID POSITION: 90 . 36
BOTTOM DEPTH: 346 M

WIND DIRECTION: 315 DEG
WIND VELOCITY: 2 MPS
WAVE HEIGHT:
SWELL HEIGHT: 0 M
SURFACE TEMP: 8.2 C
STD NUMBER:
BT/XBT NUMBER:
TIME OF TOW: 0840 HR
DEPTH OF TOW: 294 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 302 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 9.73

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 12. | 26.1 | 39.7 | 116.8 |
| MERLUCCIUS PRODUCTUS | 30. | 65.2 | 99.3 | 291.9 |
| THERAGRA CHALCOGRAMMA | 3. | 6.5 | 9.9 | 29.2 |
| LYOPSETTA EXILIS | 1. | 2.2 | 3.3 | 9.7 |
| TOTAL | 46. | 100.0 | 152.3 | 447.6 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 25. | 96.2 | 82.8 | 243.2 |
| SCORPAENIDAE(FAMILY) | 1. | 3.8 | 3.3 | 9.7 |
| TOTAL | 26. | 100.0 | 86.1 | 253.0 |

| | | | | | |
|---|---|---|---|---|---|
| TABLE: | 3 | WIND DIRECTION: | 315 DEG | TOW SPEED: | 1 MPS |
| CRUISE: | SG 81- 3 | WIND VELOCITY: | 2 MPS | TYPE OF TOW: | OBLIQUE |
| SAMPLE NO.: | 3 | WAVE HEIGHT: | | GEAR TYPE: | BONGO .25 M2 |
| DATE: | 12/ 3/81 | SWELL HEIGHT: | 0 M | MESH SIZE: | .351 MM |
| VESSEL: | CALIGUS | SURFACE TEMP: | 8.4 C | VOL. FILTERED: | 315 M3 |
| POSITION: | 49 25.7 N 124 24.0 W | STD NUMBER: | | DISP. VOLUME: | |
| GRID POSITION: | | BT/XBT NUMBER: | | PLANKTON CONC.: | |
| BOTTOM DEPTH: | 344 M | TIME OF TOW: | 0930 HR | ALIQUOT: | |
| | | DEPTH OF TOW: | 327 M | S.H.F.: | 9.41 |

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| PISCES | 2. | 7.4 | 6.3 | 18.8 |
| LEUROGLOSSUS STILBIUS | 16. | 59.3 | 50.8 | 150.6 |
| MERLUCCIUS PRODUCTUS | 4. | 14.8 | 12.7 | 37.6 |
| THERAGRA CHALCOGRAMMA | 5. | 18.5 | 15.9 | 47.0 |
| TOTAL | 27. | 100.0 | 85.7 | 254.1 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 17. | 73.9 | 54.0 | 160.0 |
| MERLUCCIUS PRODUCTUS | 2. | 8.7 | 6.3 | 18.8 |
| SCORPAENIDAE(FAMILY) | 3. | 13.0 | 9.5 | 28.2 |
| HEXAGRAMMIDAE(FAMILY) | 1. | 4.3 | 3.2 | 9.4 |
| TOTAL | 23. | 100.0 | 73.0 | 216.4 |

| | | | | | |
|---|---|---|---|---|---|
| TABLE: | 4 | WIND DIRECTION: | 0 DEG | TOW SPEED: | 1 MPS |
| CRUISE: | SG 81- 3 | WIND VELOCITY: | 0 MPS | TYPE OF TOW: | OBLIQUE |
| SAMPLE NO.: | 4 | WAVE HEIGHT: | | GEAR TYPE: | BONGO .25 M2 |
| DATE: | 12/ 3/81 | SWELL HEIGHT: | 0 M | MESH SIZE: | .351 MM |
| VESSEL: | CALIGUS | SURFACE TEMP: | 8.4 C | VOL. FILTERED: | 333 M3 |
| POSITION: | 49 27.8 N 124 29.7 W | STD NUMBER: | | DISP. VOLUME: | |
| GRID POSITION: | | BT/XBT NUMBER: | | PLANKTON CONC.: | |
| BOTTOM DEPTH: | 325 M | TIME OF TOW: | 1025 HR | ALIQUOT: | |
| | | DEPTH OF TOW: | 325 M | S.H.F.: | 9.77 |

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| PISCES | 1. | 3.2 | 3.0 | 9.8 |
| LEUROGLOSSUS STILBIUS | 21. | 67.7 | 63.1 | 205.2 |
| MERLUCCIUS PRODUCTUS | 9. | 29.0 | 27.0 | 87.9 |
| TOTAL | 31. | 100.0 | 93.1 | 302.9 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 5. | 71.4 | 15.0 | 48.9 |
| SCORPAENIDAE(FAMILY) | 1. | 14.3 | 3.0 | 9.8 |
| INOPSETTA ISCHYRA | 1. | 14.3 | 3.0 | 9.8 |
| TOTAL | 7. | 100.0 | 21.0 | 68.4 |

TABLE: 5
CRUISE: SG 81- 3
SAMPLE NO.: 5
DATE: 12/ 3/81
VESSEL: CALIGUS
POSITION: 49 30.8 N 124 27.6 W
GRID POSITION:
BOTTOM DEPTH: 192 M

WIND DIRECTION: 0 DEG
WIND VELOCITY: 0 MPS
WAVE HEIGHT:
SWELL HEIGHT: 0 M
SURFACE TEMP: 8.8 C
STD NUMBER:
BT/XBT NUMBER:
TIME OF TOW: 1115 HR
DEPTH OF TOW: 170 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 217 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 7.83

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 8. | 34.8 | 36.9 | 62.6 |
| MERLUCCIUS PRODUCTUS | 13. | 56.5 | 59.9 | 101.8 |
| THERAGRA CHALCOGRAMMA | 1. | 4.3 | 4.6 | 7.8 |
| LYOPSETTA EXILIS | 1. | 4.3 | 4.6 | 7.8 |
| TOTAL | 23. | 100.0 | 106.0 | 180.1 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 6. | 35.3 | 27.6 | 47.0 |
| MERLUCCIUS PRODUCTUS | 1. | 5.9 | 4.6 | 7.8 |
| SCORPAENIDAE(FAMILY) | 5. | 29.4 | 23.0 | 39.2 |
| HEXAGRAMMIDAE(FAMILY) | 1. | 5.9 | 4.6 | 7.8 |
| COTTIDAE(FAMILY) | 2. | 11.8 | 9.2 | 15.7 |
| INOPSETTA ISCHYRA | 2. | 11.8 | 9.2 | 15.7 |
| TOTAL | 17. | 100.0 | 78.3 | 133.1 |

TABLE: 6
CRUISE: SG 81- 3
SAMPLE NO.: 6
DATE: 12/ 3/81
VESSEL: CALIGUS
POSITION: 49 34.2 N 124 23.4 W
GRID POSITION:
BOTTOM DEPTH: 346 M

WIND DIRECTION: 0 DEG
WIND VELOCITY: 0 MPS
WAVE HEIGHT:
SWELL HEIGHT: 0 M
SURFACE TEMP: 8.8 C
STD NUMBER:
BT/XBT NUMBER:
TIME OF TOW: 1230 HR
DEPTH OF TOW: 329 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 320 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 10.28

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 7. | 6.5 | 21.9 | 72.0 |
| MERLUCCIUS PRODUCTUS | 100. | 92.6 | 312.5 | 1028.0 |
| LYOPSETTA EXILIS | 1. | 0.9 | 3.1 | 10.3 |
| TOTAL | 108. | 100.0 | 337.5 | 1110.2 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 20. | 71.4 | 62.5 | 205.6 |
| MERLUCCIUS PRODUCTUS | 4. | 14.3 | 12.5 | 41.1 |
| THERAGRA CHALCOGRAMMA | 2. | 7.1 | 6.3 | 20.6 |
| SCORPAENIDAE(FAMILY) | 1. | 3.6 | 3.1 | 10.3 |
| LYOPSETTA EXILIS | 1. | 3.6 | 3.1 | 10.3 |
| TOTAL | 28. | 100.0 | 87.5 | 287.8 |

| JUVENILES | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| NECTOLIPARIS PELAGICUS | 1. | 100.0 | 3.1 | 10.3 |
| TOTAL | 1. | 100.0 | 3.1 | 10.3 |

TABLE: 7
CRUISE: SG 81- 3
SAMPLE NO.: 7
DATE: 12/ 3/81
VESSEL: CALIGUS
POSITION: 49 37.2 N 124 29.5 W
GRID POSITION:
BOTTOM DEPTH: 288 M

WIND DIRECTION: 0 DEG
WIND VELOCITY: 0 MPS
WAVE HEIGHT:
SWELL HEIGHT: 0 M
SURFACE TEMP: 9.6 C
STD NUMBER:
BT/XBT NUMBER:
TIME OF TOW: 1330 HR
DEPTH OF TOW: 267 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 263 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 10.14

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 9. | 13.6 | 34.2 | 91.3 |
| MERLUCCIUS PRODUCTUS | 50. | 75.8 | 190.1 | 507.0 |
| THERAGRA CHALCOGRAMMA | 7. | 10.6 | 26.6 | 71.0 |
| TOTAL | 66. | 100.0 | 251.0 | 669.2 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 11. | 73.3 | 41.8 | 111.5 |
| MERLUCCIUS PRODUCTUS | 1. | 6.7 | 3.8 | 10.1 |
| SCORPAENIDAE(FAMILY) | 3. | 20.0 | 11.4 | 30.4 |
| TOTAL | 15. | 100.0 | 57.0 | 152.1 |

TABLE: 8
CRUISE: SG 81- 3
SAMPLE NO.: 8
DATE: 12/ 3/81
VESSEL: CALIGUS
POSITION: 49 40.1 N 124 35.1 W
GRID POSITION:
BOTTOM DEPTH: 373 M

WIND DIRECTION: 0 DEG
WIND VELOCITY: 0 MPS
WAVE HEIGHT:
SWELL HEIGHT: 0 M
SURFACE TEMP: 9.3 C
STD NUMBER:
BT/XBT NUMBER:
TIME OF TOW: 1433 HR
DEPTH OF TOW: 352 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 320 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 10.99

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 4. | 4.0 | 12.5 | 44.0 |
| MERLUCCIUS PRODUCTUS | 90. | 90.9 | 281.3 | 989.1 |
| THERAGRA CHALCOGRAMMA | 5. | 5.1 | 15.6 | 55.0 |
| TOTAL | 99. | 100.0 | 309.4 | 1088.0 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 8. | 80.0 | 25.0 | 87.9 |
| THERAGRA CHALCOGRAMMA | 1. | 10.0 | 3.1 | 11.0 |
| PHOLIDAE(FAMILY) | 1. | 10.0 | 3.1 | 11.0 |
| TOTAL | 10. | 100.0 | 31.3 | 109.9 |

TABLE: 9
CRUISE: SG 81- 3
SAMPLE NO.: 9
DATE: 12/ 3/81
VESSEL: CALIGUS
POSITION: 49 43.1 N 124 40.8 W
GRID POSITION:
BOTTOM DEPTH: 334 M

WIND DIRECTION:
WIND VELOCITY: 0 MPS
WAVE HEIGHT:
SWELL HEIGHT: 0 M
SURFACE TEMP: 9.6 C
STD NUMBER:
BT/XBT NUMBER:
TIME OF TOW: 1530 HR
DEPTH OF TOW: 322 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 312 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 10.34

EGGS

| | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 3. | 0.6 | 9.6 | 31.0 |
| MERLUCCIUS PRODUCTUS | 521. | 96.8 | 1669.9 | 5387.1 |
| THERAGRA CHALCOGRAMMA | 14. | 2.6 | 44.9 | 144.8 |
| TOTAL | 538. | 100.0 | 1724.4 | 5562.9 |

LARVAE

| | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 15. | 71.4 | 48.1 | 155.1 |
| MERLUCCIUS PRODUCTUS | 5. | 23.8 | 16.0 | 51.7 |
| SCORPAENIDAE(FAMILY) | 1. | 4.8 | 3.2 | 10.3 |
| TOTAL | 21. | 100.0 | 67.3 | 217.1 |

TABLE: 10
CRUISE: SG 81- 3
SAMPLE NO.: 10
DATE: 12/ 3/81
VESSEL: CALIGUS
POSITION: 49 46.0 N 124 46.5 W
GRID POSITION:
BOTTOM DEPTH: 340 M

WIND DIRECTION: 0 DEG
WIND VELOCITY: 0 MPS
WAVE HEIGHT:
SWELL HEIGHT: 0 M
SURFACE TEMP: 9.4 C
STD NUMBER:
BT/XBT NUMBER:
TIME OF TOW: 1625 HR
DEPTH OF TOW: 322 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 319 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 10.11

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 2. | 0.2 | 6.3 | 20.2 |
| MERLUCCIUS PRODUCTUS | 1285. | 98.8 | 4028.2 | 12991.3 |
| THERAGRA CHALCOGRAMMA | 1. | 0.1 | 3.1 | 10.1 |
| INOPSETTA ISCHYRA | 11. | 0.8 | 34.5 | 111.2 |
| LYOPSETTA EXILIS | 2. | 0.2 | 6.3 | 20.2 |
| TOTAL | 1301. | 100.0 | 4078.4 | 13153.1 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 13. | 68.4 | 40.8 | 131.4 |
| MERLUCCIUS PRODUCTUS | 3. | 15.8 | 9.4 | 30.3 |
| SCORPAENIDAE(FAMILY) | 1. | 5.3 | 3.1 | 10.1 |
| HEXAGRAMMIDAE(FAMILY) | 2. | 10.5 | 6.3 | 20.2 |
| TOTAL | 19. | 100.0 | 59.6 | 192.1 |

TABLE: 11
CRUISE: SG 81- 3
SAMPLE NO.: 11
DATE: 12/ 3/81
VESSEL: CALIGUS
POSITION: 49 49.0 N 124 52.2 W
GRID POSITION:
BOTTOM DEPTH: 305 M

WIND DIRECTION: 0 DEG
WIND VELOCITY: 0 MPS
WAVE HEIGHT:
SWELL HEIGHT: 0 M
SURFACE TEMP: 9.6 C
STD NUMBER:
BT/XBT NUMBER:
TIME OF TOW: 1720 HR
DEPTH OF TOW: 278 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 275 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 10.11

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 5. | 0.4 | 18.2 | 50.5 |
| MERLUCCIUS PRODUCTUS | 1267. | 99.5 | 4607.3 | 12809.4 |
| THERAGRA CHALCOGRAMMA | 1. | 0.1 | 3.6 | 10.1 |
| TOTAL | 1273. | 100.0 | 4629.1 | 12870.0 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 7. | 50.0 | 25.5 | 70.8 |
| MERLUCCIUS PRODUCTUS | 6. | 42.9 | 21.8 | 60.7 |
| HEXAGRAMMIDAE(FAMILY) | 1. | 7.1 | 3.6 | 10.1 |
| TOTAL | 14. | 100.0 | 50.9 | 141.5 |

TABLE: 12
CRUISE: SG 81- 3
SAMPLE NO.: 12
DATE: 12/ 3/81
VESSEL: CALIGUS
POSITION: 49 52.0 N 124 57.6 W
GRID POSITION:
BOTTOM DEPTH: 289 M

WIND DIRECTION: 0 DEG
WIND VELOCITY: 0 MPS
WAVE HEIGHT:
SWELL HEIGHT: 0 M
SURFACE TEMP: 9.2 C
STD NUMBER:
BT/XBT NUMBER:
TIME OF TOW: 1810 HR
DEPTH OF TOW: 270 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 307 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 8.79

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 2. | 1.3 | 6.5 | 17.6 |
| MERLUCCIUS PRODUCTUS | 156. | 98.1 | 508.1 | 1371.2 |
| THERAGRA CHALCOGRAMMA | 1. | 0.6 | 3.3 | 8.8 |
| TOTAL | 159. | 100.0 | 517.9 | 1397.6 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| PHOLIDAE(FAMILY) | 1. | 20.0 | 3.3 | 8.8 |
| HEMILEPIDOTUS HEMILEPIDOTUS | 1. | 20.0 | 3.3 | 8.8 |
| NECTOLIPARIS PELAGICUS | 3. | 60.0 | 9.8 | 26.4 |
| TOTAL | 5. | 100.0 | 16.3 | 44.0 |

| | | | | | |
|---|---|---|---|---|---|
| TABLE: | 13 | WIND DIRECTION: | 0 DEG | TOW SPEED: | 1 MPS |
| CRUISE: | SG 81- 3 | WIND VELOCITY: | 0 MPS | TYPE OF TOW: | OBLIQUE |
| SAMPLE NO.: | 13 | WAVE HEIGHT: | | GEAR TYPE: | BONGO .25 M2 |
| DATE: | 12/ 3/81 | SWELL HEIGHT: | 0 M | MESH SIZE: | .351 MM |
| VESSEL: | CALIGUS | SURFACE TEMP: | 9.3 C | VOL. FILTERED: | 256 M3 |
| POSITION: | 49 55.6 N 125 2.5 W | STD NUMBER: | | DISP. VOLUME: | |
| GRID POSITION: | | BT/XBT NUMBER: | | PLANKTON CONC.: | |
| BOTTOM DEPTH: | 281 M | TIME OF TOW: | 1900 HR | ALIQUOT: | |
| | | DEPTH OF TOW: | 281 M | S.H.F.: | 10.98 |

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 1. | 20.0 | 3.9 | 11.0 |
| MERLUCCIUS PRODUCTUS | 4. | 80.0 | 15.6 | 43.9 |
| TOTAL | 5. | 100.0 | 19.5 | 54.9 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| MERLUCCIUS PRODUCTUS | 1. | 100.0 | 3.9 | 11.0 |
| TOTAL | 1. | 100.0 | 3.9 | 11.0 |

TABLE: 14
CRUISE: SG 81- 3
SAMPLE NO.: 14
DATE: 13/ 3/81
VESSEL: CALIGUS
POSITION: 49 55.8 N 124 57.0 W
GRID POSITION:
BOTTOM DEPTH: 228 M

WIND DIRECTION:
WIND VELOCITY: 0 MPS
WAVE HEIGHT:
SWELL HEIGHT: 0 M
SURFACE TEMP: 8.8 C
STD NUMBER:
BT/XBT NUMBER:
TIME OF TOW: 0720 HR
DEPTH OF TOW: 216 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 201 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 10.74

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| PISCES | 1. | 16.7 | 5.0 | 10.7 |
| MERLUCCIUS PRODUCTUS | 5. | 83.3 | 24.9 | 53.7 |
| TOTAL | 6. | 100.0 | 29.9 | 64.4 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 2. | 40.0 | 10.0 | 21.5 |
| MERLUCCIUS PRODUCTUS | 2. | 40.0 | 10.0 | 21.5 |
| CYCLOPTERIDAE(FAMILY) | 1. | 20.0 | 5.0 | 10.7 |
| TOTAL | 5. | 100.0 | 24.9 | 53.7 |

TABLE: 15
CRUISE: SG 81- 3
SAMPLE NO.: 15
DATE: 13/ 3/81
VESSEL: CALIGUS
POSITION: 49 52.4 N 124 52.0 W
GRID POSITION:
BOTTOM DEPTH: 286 M

WIND DIRECTION:
WIND VELOCITY: 0 MPS
WAVE HEIGHT:
SWELL HEIGHT: 0 M
SURFACE TEMP: 8.1 C
STD NUMBER:
BT/XBT NUMBER:
TIME OF TOW: 0820 HR
DEPTH OF TOW: 286 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 298 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 9.60

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 3. | 1.2 | 10.1 | 28.8 |
| MERLUCCIUS PRODUCTUS | 254. | 98.1 | 852.3 | 2438.4 |
| THERAGRA CHALCOGRAMMA | 2. | 0.8 | 6.7 | 19.2 |
| TOTAL | 259. | 100.0 | 869.1 | 2486.4 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 1. | 50.0 | 3.4 | 9.6 |
| HEXAGRAMMIDAE(FAMILY) | 1. | 50.0 | 3.4 | 9.6 |
| TOTAL | 2. | 100.0 | 6.7 | 19.2 |

TABLE: 16
CRUISE: SG 81- 3
SAMPLE NO.: 16
DATE: 13/ 3/81
VESSEL: CALIGUS
POSITION: 49 50.5 N 124 45.0 W
GRID POSITION:
BOTTOM DEPTH: 172 M

WIND DIRECTION: 135 DEG
WIND VELOCITY: 2 MPS
WAVE HEIGHT:
SWELL HEIGHT: 0 M
SURFACE TEMP: 8.5 C
STD NUMBER:
BT/XBT NUMBER:
TIME OF TOW: 0920 HR
DEPTH OF TOW: 159 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 171 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 9.29

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| PISCES | 7. | 9.6 | 40.9 | 65.0 |
| LEUROGLOSSUS STILBIUS | 7. | 9.6 | 40.9 | 65.0 |
| MERLUCCIUS PRODUCTUS | 57. | 78.1 | 333.3 | 529.5 |
| THERAGRA CHALCOGRAMMA | 2. | 2.7 | 11.7 | 18.6 |
| TOTAL | 73. | 100.0 | 426.9 | 678.2 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 2. | 33.3 | 11.7 | 18.6 |
| SCORPAENIDAE(FAMILY) | 4. | 66.7 | 23.4 | 37.2 |
| TOTAL | 6. | 100.0 | 35.1 | 55.7 |

| | | | | | |
|---|---|---|---|---|---|
| TABLE: | 17 | WIND DIRECTION: | 135 DEG | TOW SPEED: | 1 MPS |
| CRUISE: | SG 81- 3 | WIND VELOCITY: | 3 MPS | TYPE OF TOW: | OBLIQUE |
| SAMPLE NO.: | 17 | WAVE HEIGHT: | | GEAR TYPE: | BONGO .25 M2 |
| DATE: | 13/ 3/81 | SWELL HEIGHT: | | MESH SIZE: | .351 MM |
| VESSEL: | CALIGUS | SURFACE TEMP: | 8.5 C | VOL. FILTERED: | 249 M3 |
| POSITION: | 49 50.0 N 124 36.2 W | STD NUMBER: | | DISP. VOLUME: | |
| GRID POSITION: | | BT/XBT NUMBER: | | PLANKTON CONC.: | |
| BOTTOM DEPTH: | 260 M | TIME OF TOW: | 1015 HR | ALIQUOT: | |
| | | DEPTH OF TOW: | 245 M | S.H.F.: | 9.85 |

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| MERLUCCIUS PRODUCTUS | 7. | 87.5 | 28.1 | 69.0 |
| LYOPSETTA EXILIS | 1. | 12.5 | 4.0 | 9.9 |
| TOTAL | 8. | 100.0 | 32.1 | 78.8 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 1. | 50.0 | 4.0 | 9.9 |
| SCORPAENIDAE(FAMILY) | 1. | 50.0 | 4.0 | 9.9 |
| TOTAL | 2. | 100.0 | 8.0 | 19.7 |

TABLE: 18
CRUISE: SG 81- 3
SAMPLE NO.: 18
DATE: 13/ 3/81
VESSEL: CALIGUS
POSITION: 49 46.3 N 124 30.7 W
GRID POSITION:
BOTTOM DEPTH: 318 M

WIND DIRECTION: 135 DEG
WIND VELOCITY: 3 MPS
WAVE HEIGHT:
SWELL HEIGHT:
SURFACE TEMP: 8.5 C
STD NUMBER:
BT/XBT NUMBER:
TIME OF TOW: 1115 HR
DEPTH OF TOW: 303 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 307 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 9.89

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 1. | 1.2 | 3.3 | 9.9 |
| MERLUCCIUS PRODUCTUS | 85. | 98.8 | 276.9 | 840.7 |
| TOTAL | 86. | 100.0 | 280.1 | 850.5 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 4. | 100.0 | 13.0 | 39.6 |
| TOTAL | 4. | 100.0 | 13.0 | 39.6 |

| JUVENILES | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 1. | 100.0 | 3.3 | 9.9 |
| TOTAL | 1. | 100.0 | 3.3 | 9.9 |

TABLE: 19
CRUISE: SG 81- 3
SAMPLE NO.: 19
DATE: 13/ 3/81
VESSEL: CALIGUS
POSITION: 49 44.5 N 124 24.0 W
GRID POSITION:
BOTTOM DEPTH: 317 M

WIND DIRECTION: 135 DEG
WIND VELOCITY: 2 MPS
WAVE HEIGHT:
SWELL HEIGHT:
SURFACE TEMP: 8.8 C
STD NUMBER:
BT/XBT NUMBER:
TIME OF TOW: 1210 HR
DEPTH OF TOW: 302 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 285 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 10.60

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| PISCES | 1. | 1.8 | 3.5 | 10.6 |
| LEUROGLOSSUS STILBIUS | 2. | 3.6 | 7.0 | 21.2 |
| MERLUCCIUS PRODUCTUS | 52. | 94.5 | 182.5 | 551.2 |
| TOTAL | 55. | 100.0 | 193.0 | 583.0 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 14. | 93.3 | 49.1 | 148.4 |
| SCORPAENIDAE(FAMILY) | 1. | 6.7 | 3.5 | 10.6 |
| TOTAL | 15. | 100.0 | 52.6 | 159.0 |

TABLE: 20
CRUISE: SG 81- 3
SAMPLE NO.: 20
DATE: 13/ 3/81
VESSEL: CALIGUS
POSITION: 49 41.1 N 124 18.5 W
GRID POSITION:
BOTTOM DEPTH: 273 M

WIND DIRECTION: 135 DEG
WIND VELOCITY: 3 MPS
WAVE HEIGHT:
SWELL HEIGHT: 0 M
SURFACE TEMP: 8.7 C
STD NUMBER:
BT/XBT NUMBER:
TIME OF TOW: 1305 HR
DEPTH OF TOW: 254 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 239 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 10.62

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 6. | 23.1 | 25.1 | 63.7 |
| MERLUCCIUS PRODUCTUS | 20. | 76.9 | 83.7 | 212.4 |
| TOTAL | 26. | 100.0 | 108.8 | 276.1 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 14. | 93.3 | 58.6 | 148.7 |
| SCORPAENIDAE(FAMILY) | 1. | 6.7 | 4.2 | 10.6 |
| TOTAL | 15. | 100.0 | 62.8 | 159.3 |

| JUVENILES | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LYCODAPUS MANDIBULARIS | 1. | 100.0 | 4.2 | 10.6 |
| TOTAL | 1. | 100.0 | 4.2 | 10.6 |

| | | | | | |
|---|---|---|---|---|---|
| TABLE: | 21 | WIND DIRECTION: | 135 DEG | TOW SPEED: | 1 MPS |
| CRUISE: | SG 81- 3 | WIND VELOCITY: | 6 MPS | TYPE OF TOW: | OBLIQUE |
| SAMPLE NO.: | 21 | WAVE HEIGHT: | | GEAR TYPE: | BONGO .25 M2 |
| DATE: | 13/ 3/81 | SWELL HEIGHT: | 0 M | MESH SIZE: | .351 MM |
| VESSEL: | CALIGUS | SURFACE TEMP: | 8.6 C | VOL. FILTERED: | 296 M3 |
| POSITION: | 49 37.7 N 124 13.4 W | STD NUMBER: | | DISP. VOLUME: | |
| GRID POSITION: | | BT/XBT NUMBER: | | PLANKTON CONC.: | |
| BOTTOM DEPTH: | 346 M | TIME OF TOW: | 1415 HR | ALIQUOT: | |
| | | DEPTH OF TOW: | 341 M | S.H.F.: | 11.51 |

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 30. | 66.7 | 101.4 | 345.3 |
| MERLUCCIUS PRODUCTUS | 15. | 33.3 | 50.7 | 172.7 |
| TOTAL | 45. | 100.0 | 152.0 | 518.0 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 11. | 73.3 | 37.2 | 126.6 |
| SCORPAENIDAE(FAMILY) | 4. | 26.7 | 13.5 | 46.0 |
| TOTAL | 15. | 100.0 | 50.7 | 172.7 |

| JUVENILES | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| STENOBRACHIUS LEUCOPSARUS | 1. | 100.0 | 3.4 | 11.5 |
| TOTAL | 1. | 100.0 | 3.4 | 11.5 |

TABLE: 22
CRUISE: SG 81- 3
SAMPLE NO.: 22
DATE: 13/ 3/81
VESSEL: CALIGUS
POSITION: 49 34.0 N 124 8.8 W
GRID POSITION: 90 . 25
BOTTOM DEPTH: 378 M

WIND DIRECTION: 135 DEG
WIND VELOCITY: 5 MPS
WAVE HEIGHT:
SWELL HEIGHT: 0 M
SURFACE TEMP: 8.6 C
STD NUMBER:
BT/XBT NUMBER:
TIME OF TOW: 1540 HR
DEPTH OF TOW: 357 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 303 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 11.77

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 19. | 38.8 | 62.7 | 223.6 |
| MERLUCCIUS PRODUCTUS | 28. | 57.1 | 92.4 | 329.6 |
| MICROSTOMUS PACIFICUS | 2. | 4.1 | 6.6 | 23.5 |
| TOTAL | 49. | 100.0 | 161.7 | 576.7 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 17. | 89.5 | 56.1 | 200.1 |
| MERLUCCIUS PRODUCTUS | 2. | 10.5 | 6.6 | 23.5 |
| TOTAL | 19. | 100.0 | 62.7 | 223.6 |

| JUVENILES | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 1. | 100.0 | 3.3 | 11.8 |
| TOTAL | 1. | 100.0 | 3.3 | 11.8 |

TABLE: 23
CRUISE: SG 81- 3
SAMPLE NO.: 23
DATE: 13/ 3/81
VESSEL: CALIGUS
POSITION: 49 29.5 N 124 5.7 W
GRID POSITION: 86 . 27
BOTTOM DEPTH: 403 M

WIND DIRECTION: 45 DEG
WIND VELOCITY: 3 MPS
WAVE HEIGHT:
SWELL HEIGHT: 0 M
SURFACE TEMP: 9.0 C
STD NUMBER:
BT/XBT NUMBER:
TIME OF TOW: 1640 HR
DEPTH OF TOW: 368 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 347 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 10.61

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 49. | 25.4 | 141.2 | 519.9 |
| MERLUCCIUS PRODUCTUS | 142. | 73.6 | 409.2 | 1506.6 |
| THERAGRA CHALCOGRAMMA | 1. | 0.5 | 2.9 | 10.6 |
| MICROSTOMUS PACIFICUS | 1. | 0.5 | 2.9 | 10.6 |
| TOTAL | 193. | 100.0 | 556.2 | 2047.7 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 56. | 88.9 | 161.4 | 594.2 |
| MERLUCCIUS PRODUCTUS | 5. | 7.9 | 14.4 | 53.0 |
| THERAGRA CHALCOGRAMMA | 1. | 1.6 | 2.9 | 10.6 |
| SCORPAENIDAE(FAMILY) | 1. | 1.6 | 2.9 | 10.6 |
| TOTAL | 63. | 100.0 | 181.6 | 668.4 |

| JUVENILES | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 2. | 100.0 | 5.8 | 21.2 |
| TOTAL | 2. | 100.0 | 5.8 | 21.2 |

TABLE: 24
CRUISE: SG 81- 6
SAMPLE NO.: 1
DATE: 9/ 4/81
VESSEL: CALIGUS
POSITION: 49 29.5 N 124 5.7 W
GRID POSITION: 86 . 27
BOTTOM DEPTH: 411 M

WIND DIRECTION: 315 DEG
WIND VELOCITY: 3 MPS
WAVE HEIGHT:
SWELL HEIGHT: 0 M
SURFACE TEMP: 8.5 C
STD NUMBER:
BT/XBT NUMBER: 1
TIME OF TOW: 0600 HR
DEPTH OF TOW: 372 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 355 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 10.48

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| PISCES | 2. | 0.2 | 5.6 | 21.0 |
| LEUROGLOSSUS STILBIUS | 36. | 2.9 | 101.4 | 377.3 |
| MERLUCCIUS PRODUCTUS | 849. | 67.9 | 2391.5 | 8897.5 |
| THERAGRA CHALCOGRAMMA | 359. | 28.7 | 1011.3 | 3762.3 |
| LYOPSETTA EXILIS | 5. | 0.4 | 14.1 | 52.4 |
| TOTAL | 1251. | 100.0 | 3523.9 | 13110.5 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| CLUPEA HARENGUS | 45. | 4.3 | 126.8 | 471.6 |
| LEUROGLOSSUS STILBIUS | 32. | 3.1 | 90.1 | 335.4 |
| GADUS MACROCEPHALUS | 1. | 0.1 | 2.8 | 10.5 |
| MERLUCCIUS PRODUCTUS | 607. | 58.6 | 1709.9 | 6361.4 |
| THERAGRA CHALCOGRAMMA | 319. | 30.8 | 898.6 | 3343.1 |
| BROSMOPHYCIS MARGINATA | 1. | 0.1 | 2.8 | 10.5 |
| BATHYMASTERIDAE(FAMILY) | 3. | 0.3 | 8.5 | 31.4 |
| SCORPAENIDAE(FAMILY) | 25. | 2.4 | 70.4 | 262.0 |
| HEXAGRAMMIDAE(FAMILY) | 1. | 0.1 | 2.8 | 10.5 |
| CYCLOPTERIDAE(FAMILY) | 1. | 0.1 | 2.8 | 10.5 |
| LYOPSETTA EXILIS | 1. | 0.1 | 2.8 | 10.5 |
| TOTAL | 1036. | 100.0 | 2918.3 | 10857.3 |

| JUVENILES | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LYCODAPUS MANDIBULARIS | 2. | 100.0 | 5.6 | 21.0 |
| TOTAL | 2. | 100.0 | 5.6 | 21.0 |

TABLE: 25
CRUISE: SG 81- 6
SAMPLE NO.: 2
DATE: 9/ 4/81
VESSEL: CALIGUS
POSITION: 49 34.0 N 124 8.8 W
GRID POSITION: 90 . 25
BOTTOM DEPTH: 393 M

WIND DIRECTION: 315 DEG
WIND VELOCITY: 3 MPS
WAVE HEIGHT:
SWELL HEIGHT: 0 M
SURFACE TEMP: 8.7 C
STD NUMBER:
BT/XBT NUMBER: 2
TIME OF TOW: 0700 HR
DEPTH OF TOW: 359 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 342 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 10.50

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 27. | 3.1 | 78.9 | 283.5 |
| MERLUCCIUS PRODUCTUS | 487. | 56.2 | 1424.0 | 5113.5 |
| THERAGRA CHALCOGRAMMA | 350. | 40.4 | 1023.4 | 3675.0 |
| LYOPSETTA EXILIS | 2. | 0.2 | 5.8 | 21.0 |
| MICROSTOMUS PACIFICUS | 1. | 0.1 | 2.9 | 10.5 |
| TOTAL | 867. | 100.0 | 2535.1 | 9103.5 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| CLUPEA HARENGUS | 32. | 6.9 | 93.6 | 336.0 |
| LEUROGLOSSUS STILBIUS | 36. | 7.8 | 105.3 | 378.0 |
| MERLUCCIUS PRODUCTUS | 261. | 56.3 | 763.2 | 2740.5 |
| THERAGRA CHALCOGRAMMA | 110. | 23.7 | 321.6 | 1155.0 |
| SCORPAENIDAE(FAMILY) | 23. | 5.0 | 67.3 | 241.5 |
| INOPSETTA ISCHYRA | 1. | 0.2 | 2.9 | 10.5 |
| LYOPSETTA EXILIS | 1. | 0.2 | 2.9 | 10.5 |
| TOTAL | 464. | 100.0 | 1356.7 | 4872.0 |

TABLE: 26
CRUISE: SG 81- 6
SAMPLE NO.: 3
DATE: 9/ 4/81
VESSEL: CALIGUS
POSITION: 49 37.7 N 124 13.4 W
GRID POSITION:
BOTTOM DEPTH: 347 M

WIND DIRECTION: 315 DEG
WIND VELOCITY: 3 MPS
WAVE HEIGHT:
SWELL HEIGHT: 0 M
SURFACE TEMP: 8.9 C
STD NUMBER:
BT/XBT NUMBER: 3
TIME OF TOW: 0805 HR
DEPTH OF TOW: 311 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 305 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 10.19

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| PISCES | 3. | 0.3 | 9.8 | 30.6 |
| LEUROGLOSSUS STILBIUS | 20. | 1.9 | 65.6 | 203.8 |
| MERLUCCIUS PRODUCTUS | 543. | 51.6 | 1780.3 | 5533.2 |
| THERAGRA CHALCOGRAMMA | 485. | 46.1 | 1590.2 | 4942.1 |
| MICROSTOMUS PACIFICUS | 1. | 0.1 | 3.3 | 10.2 |
| TOTAL | 1052. | 100.0 | 3449.2 | 10719.9 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| CLUPEA HARENGUS | 9. | 1.5 | 29.5 | 91.7 |
| LEUROGLOSSUS STILBIUS | 29. | 4.9 | 95.1 | 295.5 |
| MERLUCCIUS PRODUCTUS | 437. | 73.6 | 1432.8 | 4453.0 |
| MICROGADUS PROXIMUS | 1. | 0.2 | 3.3 | 10.2 |
| THERAGRA CHALCOGRAMMA | 81. | 13.6 | 265.6 | 825.4 |
| SCORPAENIDAE(FAMILY) | 28. | 4.7 | 91.8 | 285.3 |
| AGONIDAE(FAMILY) | 1. | 0.2 | 3.3 | 10.2 |
| CYCLOPTERIDAE(FAMILY) | 1. | 0.2 | 3.3 | 10.2 |
| INOPSETTA ISCHYRA | 2. | 0.3 | 6.6 | 20.4 |
| LYOPSETTA EXILIS | 2. | 0.3 | 6.6 | 20.4 |
| PSETTICHTHYS MELANOSTICTUS | 3. | 0.5 | 9.8 | 30.6 |
| TOTAL | 594. | 100.0 | 1947.5 | 6052.9 |

| JUVENILES | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 1. | 50.0 | 3.3 | 10.2 |
| STENOBRACHIUS LEUCOPSARUS | 1. | 50.0 | 3.3 | 10.2 |
| TOTAL | 2. | 100.0 | 6.6 | 20.4 |

| | | | | | |
|---|---|---|---|---|---|
| TABLE: | 27 | WIND DIRECTION: | 315 DEG | TOW SPEED: | 1 MPS |
| CRUISE: | SG 81- 6 | WIND VELOCITY: | 3 MPS | TYPE OF TOW: | OBLIQUE |
| SAMPLE NO.: | 4 | WAVE HEIGHT: | | GEAR TYPE: | BONGO .25 M2 |
| DATE: | 9/ 4/81 | SWELL HEIGHT: | 0 M | MESH SIZE: | .351 MM |
| VESSEL: | CALIGUS | SURFACE TEMP: | 8.9 C | VOL. FILTERED: | 272 M3 |
| POSITION: | 49 41.1 N 124 18.5 W | STD NUMBER: | | DISP. VOLUME: | |
| GRID POSITION: | | BT/XBT NUMBER: | 4 | PLANKTON CONC.: | |
| BOTTOM DEPTH: | 317 M | TIME OF TOW: | 0905 HR | ALIQUOT: | |
| | | DEPTH OF TOW: | 306 M | S.H.F.: | 11.25 |

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 12. | 2.2 | 44.1 | 135.0 |
| MERLUCCIUS PRODUCTUS | 291. | 54.2 | 1069.9 | 3273.8 |
| THERAGRA CHALCOGRAMMA | 230. | 42.8 | 845.6 | 2587.5 |
| LYOPSETTA EXILIS | 4. | 0.7 | 14.7 | 45.0 |
| TOTAL | 537. | 100.0 | 1974.3 | 6041.3 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| CLUPEA HARENGUS | 101. | 32.9 | 371.3 | 1136.3 |
| LEUROGLOSSUS STILBIUS | 22. | 7.2 | 80.9 | 247.5 |
| GADUS MACROCEPHALUS | 1. | 0.3 | 3.7 | 11.3 |
| MERLUCCIUS PRODUCTUS | 152. | 49.5 | 558.8 | 1710.0 |
| THERAGRA CHALCOGRAMMA | 26. | 8.5 | 95.6 | 292.5 |
| SCORPAENIDAE(FAMILY) | 2. | 0.7 | 7.4 | 22.5 |
| INOPSETTA ISCHYRA | 1. | 0.3 | 3.7 | 11.3 |
| LYOPSETTA EXILIS | 1. | 0.3 | 3.7 | 11.3 |
| PSETTICHTHYS MELANOSTICTUS | 1. | 0.3 | 3.7 | 11.3 |
| TOTAL | 307. | 100.0 | 1128.7 | 3453.8 |

| | | | | | |
|---|---|---|---|---|---|
| TABLE: | 28 | WIND DIRECTION: | 315 DEG | TOW SPEED: | 1 MPS |
| CRUISE: | SG 81- 6 | WIND VELOCITY: | 3 MPS | TYPE OF TOW: | OBLIQUE |
| SAMPLE NO.: | 5 | WAVE HEIGHT: | | GEAR TYPE: | BONGO .25 M2 |
| DATE: | 9/ 4/81 | SWELL HEIGHT: | 0 M | MESH SIZE: | .351 MM |
| VESSEL: | CALIGUS | SURFACE TEMP: | 8.9 C | VOL. FILTERED: | 271 M3 |
| POSITION: | 49 44.5 N 124 24.0 W | STD NUMBER: | | DISP. VOLUME: | |
| GRID POSITION: | | BT/XBT NUMBER: | 5 | PLANKTON CONC.: | |
| BOTTOM DEPTH: | 320 M | TIME OF TOW: | 1000 HR | ALIQUOT: | |
| | | DEPTH OF TOW: | 305 M | S.H.F.: | 11.26 |

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| PISCES | 4. | 2.4 | 14.8 | 45.0 |
| LEUROGLOSSUS STILBIUS | 3. | 1.8 | 11.1 | 33.8 |
| MERLUCCIUS PRODUCTUS | 84. | 50.9 | 310.0 | 945.8 |
| THERAGRA CHALCOGRAMMA | 74. | 44.8 | 273.1 | 833.2 |
| TOTAL | 165. | 100.0 | 608.9 | 1857.9 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| CLUPEA HARENGUS | 116. | 62.7 | 428.0 | 1306.2 |
| LEUROGLOSSUS STILBIUS | 8. | 4.3 | 29.5 | 90.1 |
| MERLUCCIUS PRODUCTUS | 29. | 15.7 | 107.0 | 326.5 |
| THERAGRA CHALCOGRAMMA | 3. | 1.6 | 11.1 | 33.8 |
| SCORPAENIDAE(FAMILY) | 25. | 13.5 | 92.3 | 281.5 |
| AGONIDAE(FAMILY) | 1. | 0.5 | 3.7 | 11.3 |
| INOPSETTA ISCHYRA | 3. | 1.6 | 11.1 | 33.8 |
| TOTAL | 185. | 100.0 | 682.7 | 2083.1 |

| JUVENILES | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LYCODAPUS MANDIBULARIS | 1. | 100.0 | 3.7 | 11.3 |
| TOTAL | 1. | 100.0 | 3.7 | 11.3 |

| | | | | | |
|---|---|---|---|---|---|
| TABLE: | 29 | WIND DIRECTION: | 315 DEG | TOW SPEED: | 1 MPS |
| CRUISE: | SG 81- 6 | WIND VELOCITY: | 5 MPS | TYPE OF TOW: | OBLIQUE |
| SAMPLE NO.: | 6 | WAVE HEIGHT: | | GEAR TYPE: | BONGO .25 M2 |
| DATE: | 9/ 4/81 | SWELL HEIGHT: | 0 M | MESH SIZE: | .351 MM |
| VESSEL: | CALIGUS | SURFACE TEMP: | 9.0 C | VOL. FILTERED: | 297 M3 |
| POSITION: | 49 46.3 N 124 30.7 W | STD NUMBER: | | DISP. VOLUME: | |
| GRID POSITION: | | BT/XBT NUMBER: | 6 | PLANKTON CONC.: | |
| BOTTOM DEPTH: | 331 M | TIME OF TOW: | 1055 HR | ALIQUOT: | |
| | | DEPTH OF TOW: | 312 M | S.H.F.: | 10.52 |

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TABLE: 30
CRUISE: SG 81- 6
SAMPLE NO.: 7
DATE: 9/ 4/81
VESSEL: CALIGUS
POSITION: 49 50.0 N 124 36.2 W
GRID POSITION:
BOTTOM DEPTH: 248 M

WIND DIRECTION: 135 DEG
WIND VELOCITY: 5 MPS
WAVE HEIGHT:
SWELL HEIGHT: 0 M
SURFACE TEMP: 9.1 C
STD NUMBER:
BT/XBT NUMBER: 7
TIME OF TOW: 1155 HR
DEPTH OF TOW: 230 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 215 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 10.71

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 3. | 0.5 | 14.0 | 32.1 |
| MERLUCCIUS PRODUCTUS | 609. | 97.1 | 2832.6 | 6522.4 |
| THERAGRA CHALCOGRAMMA | 12. | 1.9 | 55.8 | 128.5 |
| LYOPSETTA EXILIS | 3. | 0.5 | 14.0 | 32.1 |
| TOTAL | 627. | 100.0 | 2916.3 | 6715.2 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 10. | 8.8 | 46.5 | 107.1 |
| GADUS MACROCEPHALUS | 1. | 0.9 | 4.7 | 10.7 |
| MERLUCCIUS PRODUCTUS | 41. | 36.0 | 190.7 | 439.1 |
| THERAGRA CHALCOGRAMMA | 3. | 2.6 | 14.0 | 32.1 |
| BATHYMASTERIDAE(FAMILY) | 1. | 0.9 | 4.7 | 10.7 |
| SCORPAENIDAE(FAMILY) | 51. | 44.7 | 237.2 | 546.2 |
| HEXAGRAMMIDAE(FAMILY) | 1. | 0.9 | 4.7 | 10.7 |
| INOPSETTA ISCHYRA | 1. | 0.9 | 4.7 | 10.7 |
| LYOPSETTA EXILIS | 3. | 2.6 | 14.0 | 32.1 |
| PSETTICHTHYS MELANOSTICTUS | 2. | 1.8 | 9.3 | 21.4 |
| TOTAL | 114. | 100.0 | 530.2 | 1220.9 |

| | | | | | |
|---|---|---|---|---|---|
| TABLE: | 31 | WIND DIRECTION: | 135 DEG | TOW SPEED: | 1 MPS |
| CRUISE: | SG 81- 6 | WIND VELOCITY: | 6 MPS | TYPE OF TOW: | OBLIQUE |
| SAMPLE NO.: | 8 | WAVE HEIGHT: | | GEAR TYPE: | BONGO .25 M2 |
| DATE: | 9/ 4/81 | SWELL HEIGHT: | 0 M | MESH SIZE: | .351 MM |
| VESSEL: | CALIGUS | SURFACE TEMP: | 9.2 C | VOL. FILTERED: | 144 M3 |
| POSITION: | 49 50.5 N 124 45.0 W | STD NUMBER: | | DISP. VOLUME: | |
| GRID POSITION: | | BT/XBT NUMBER: | 8 | PLANKTON CONC.: | |
| BOTTOM DEPTH: | 165 M | TIME OF TOW: | 1305 HR | ALIQUOT: | |
| | | DEPTH OF TOW: | 152 M | S.H.F.: | 10.57 |

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 2. | 1.5 | 13.9 | 21.1 |
| MERLUCCIUS PRODUCTUS | 118. | 88.1 | 819.4 | 1247.3 |
| THERAGRA CHALCOGRAMMA | 9. | 6.7 | 62.5 | 95.1 |
| LYOPSETTA EXILIS | 5. | 3.7 | 34.7 | 52.8 |
| TOTAL | 134. | 100.0 | 930.6 | 1416.4 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| CLUPEA HARENGUS | 212. | 79.1 | 1472.2 | 2240.8 |
| LEUROGLOSSUS STILBIUS | 2. | 0.7 | 13.9 | 21.1 |
| MERLUCCIUS PRODUCTUS | 24. | 9.0 | 166.7 | 253.7 |
| MICROGADUS PROXIMUS | 1. | 0.4 | 6.9 | 10.6 |
| THERAGRA CHALCOGRAMMA | 4. | 1.5 | 27.8 | 42.3 |
| SCORPAENIDAE(FAMILY) | 20. | 7.5 | 138.9 | 211.4 |
| AGONIDAE(FAMILY) | 1. | 0.4 | 6.9 | 10.6 |
| LYOPSETTA EXILIS | 3. | 1.1 | 20.8 | 31.7 |
| PSETTICHTHYS MELANOSTICTUS | 1. | 0.4 | 6.9 | 10.6 |
| TOTAL | 268. | 100.0 | 1861.1 | 2832.8 |

TABLE: 32
CRUISE: SG 81- 6
SAMPLE NO.: 9
DATE: 9/ 4/81
VESSEL: CALIGUS
POSITION: 49 52.4 N 124 52.0 W
GRID POSITION:
BOTTOM DEPTH: 278 M

WIND DIRECTION: 135 DEG
WIND VELOCITY: 6 MPS
WAVE HEIGHT:
SWELL HEIGHT: 0 M
SURFACE TEMP: 9.0 C
STD NUMBER:
BT/XBT NUMBER: 9
TIME OF TOW: 1350 HR
DEPTH OF TOW: 268 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 238 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 11.27

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 3. | 0.3 | 12.6 | 33.8 |
| MERLUCCIUS PRODUCTUS | 1063. | 95.3 | 4466.4 | 11980.0 |
| THERAGRA CHALCOGRAMMA | 43. | 3.9 | 180.7 | 484.6 |
| LYOPSETTA EXILIS | 6. | 0.5 | 25.2 | 67.6 |
| TOTAL | 1115. | 100.0 | 4684.9 | 12566.1 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| CLUPEA HARENGUS | 88. | 21.4 | 369.7 | 991.8 |
| LEUROGLOSSUS STILBIUS | 3. | 0.7 | 12.6 | 33.8 |
| MERLUCCIUS PRODUCTUS | 302. | 73.3 | 1268.9 | 3403.5 |
| MICROGADUS PROXIMUS | 2. | 0.5 | 8.4 | 22.5 |
| THERAGRA CHALCOGRAMMA | 4. | 1.0 | 16.8 | 45.1 |
| SCORPAENIDAE(FAMILY) | 7. | 1.7 | 29.4 | 78.9 |
| INOPSETTA ISCHYRA | 2. | 0.5 | 8.4 | 22.5 |
| LYOPSETTA EXILIS | 3. | 0.7 | 12.6 | 33.8 |
| PSETTICHTHYS MELANOSTICTUS | 1. | 0.2 | 4.2 | 11.3 |
| TOTAL | 412. | 100.0 | 1731.1 | 4643.2 |

TABLE: 33
CRUISE: SG 81- 6
SAMPLE NO.: 10
DATE: 9/ 4/81
VESSEL: CALIGUS
POSITION: 49 55.8 N 124 57.0 W
GRID POSITION:
BOTTOM DEPTH: 231 M

WIND DIRECTION: 135 DEG
WIND VELOCITY: 5 MPS
WAVE HEIGHT:
SWELL HEIGHT: 0 M
SURFACE TEMP: 9.0 C
STD NUMBER:
BT/XBT NUMBER: 10
TIME OF TOW: 1445 HR
DEPTH OF TOW: 212 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 192 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 11.02

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| PISCES | 3. | 2.9 | 15.6 | 33.1 |
| LEUROGLOSSUS STILBIUS | 7. | 6.7 | 36.5 | 77.1 |
| MERLUCCIUS PRODUCTUS | 90. | 85.7 | 468.8 | 991.8 |
| THERAGRA CHALCOGRAMMA | 3. | 2.9 | 15.6 | 33.1 |
| LYOPSETTA EXILIS | 2. | 1.9 | 10.4 | 22.0 |
| TOTAL | 105. | 100.0 | 546.9 | 1157.1 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| CLUPEA HARENGUS | 340. | 80.4 | 1770.8 | 3746.8 |
| MERLUCCIUS PRODUCTUS | 52. | 12.3 | 270.8 | 573.0 |
| THERAGRA CHALCOGRAMMA | 3. | 0.7 | 15.6 | 33.1 |
| BATHYMASTERIDAE(FAMILY) | 1. | 0.2 | 5.2 | 11.0 |
| AMMODYTES HEXAPTERUS | 2. | 0.5 | 10.4 | 22.0 |
| SCORPAENIDAE(FAMILY) | 21. | 5.0 | 109.4 | 231.4 |
| CYCLOPTERIDAE(FAMILY) | 1. | 0.2 | 5.2 | 11.0 |
| INOPSETTA ISCHYRA | 1. | 0.2 | 5.2 | 11.0 |
| LYOPSETTA EXILIS | 1. | 0.2 | 5.2 | 11.0 |
| PSETTICHTHYS MELANOSTICTUS | 1. | 0.2 | 5.2 | 11.0 |
| TOTAL | 423. | 100.0 | 2203.1 | 4661.5 |

TABLE: 34
CRUISE: SG 81- 6
SAMPLE NO.: 11
DATE: 9/ 4/81
VESSEL: CALIGUS
POSITION: 49 55.6 N 125 2.5 W
GRID POSITION:
BOTTOM DEPTH: 291 M

WIND DIRECTION: 135 DEG
WIND VELOCITY: 5 MPS
WAVE HEIGHT:
SWELL HEIGHT: 0 M
SURFACE TEMP: 9.1 C
STD NUMBER:
BT/XBT NUMBER: 11
TIME OF TOW: 1530 HR
DEPTH OF TOW: 265 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 257 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 10.33

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| PISCES | 1. | 0.3 | 3.9 | 10.3 |
| LEUROGLOSSUS STILBIUS | 3. | 0.8 | 11.7 | 31.0 |
| MERLUCCIUS PRODUCTUS | 336. | 93.3 | 1307.4 | 3470.9 |
| THERAGRA CHALCOGRAMMA | 14. | 3.9 | 54.5 | 144.6 |
| LYOPSETTA EXILIS | 6. | 1.7 | 23.3 | 62.0 |
| TOTAL | 360. | 100.0 | 1400.8 | 3718.8 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| CLUPEA HARENGUS | 67. | 21.4 | 260.7 | 692.1 |
| LEUROGLOSSUS STILBIUS | 1. | 0.3 | 3.9 | 10.3 |
| MERLUCCIUS PRODUCTUS | 224. | 71.6 | 871.6 | 2313.9 |
| THERAGRA CHALCOGRAMMA | 5. | 1.6 | 19.5 | 51.7 |
| AMMODYTES HEXAPTERUS | 1. | 0.3 | 3.9 | 10.3 |
| SCORPAENIDAE(FAMILY) | 6. | 1.9 | 23.3 | 62.0 |
| HEXAGRAMMIDAE(FAMILY) | 1. | 0.3 | 3.9 | 10.3 |
| COTTIDAE(FAMILY) | 3. | 1.( | 11.7 | 31.0 |
| LYOPSETTA EXILIS | 1. | 0.3 | 3.9 | 10.3 |
| PSETTICHTHYS MELANOSTICTUS | 4. | 1.3 | 15.6 | 41.3 |
| TOTAL | 313. | 100.0 | 1217.9 | 3233.3 |

| JUVENILES | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LYCODAPUS MANDIBULARIS | 3. | 100.0 | 11.7 | 31.0 |
| TOTAL | 3. | 100.0 | 11.7 | 31.0 |

TABLE: 35
CRUISE: SG 81- 6
SAMPLE NO.: 12
DATE: 9/ 4/81
VESSEL: CALIGUS
POSITION: 49 52.0 N 124 57.6 W
GRID POSITION:
BOTTOM DEPTH: 300 M

WIND DIRECTION: 135 DEG
WIND VELOCITY: 6 MPS
WAVE HEIGHT:
SWELL HEIGHT: 0 M
SURFACE TEMP: 8.9 C
STD NUMBER:
BT/XBT NUMBER: 12
TIME OF TOW: 1625 HR
DEPTH OF TOW: 290 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 261 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 11.12

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 8. | 0.4 | 30.7 | 89.0 |
| MERLUCCIUS PRODUCTUS | 1815. | 96.1 | 6954.0 | 20182.8 |
| THERAGRA CHALCOGRAMMA | 63. | 3.3 | 241.4 | 700.6 |
| LYOPSETTA EXILIS | 2. | 0.1 | 7.7 | 22.2 |
| TOTAL | 1888. | 100.0 | 7233.7 | 20994.6 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| CLUPEA HARENGUS | 156. | 73.9 | 597.7 | 1734.7 |
| LEUROGLOSSUS STILBIUS | 1. | 0.5 | 3.8 | 11.1 |
| MERLUCCIUS PRODUCTUS | 36. | 17.1 | 137.9 | 400.3 |
| THERAGRA CHALCOGRAMMA | 1. | 0.5 | 3.8 | 11.1 |
| AMMODYTES HEXAPTERUS | 1. | 0.5 | 3.8 | 11.1 |
| SCORPAENIDAE(FAMILY) | 16. | 7.6 | 61.3 | 177.9 |
| TOTAL | 211. | 100.0 | 808.4 | 2346.3 |

| JUVENILES | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LYCODAPUS MANDIBULARIS | 1. | 100.0 | 3.8 | 11.1 |
| TOTAL | 1. | 100.0 | 3.8 | 11.1 |

TABLE: 36
CRUISE: SG 81- 6
SAMPLE NO.: 13
DATE: 9/ 4/81
VESSEL: CALIGUS
POSITION: 49 49.0 N 124 52.2 W
GRID POSITION:
BOTTOM DEPTH: 280 M

WIND DIRECTION: 315 DEG
WIND VELOCITY: 5 MPS
WAVE HEIGHT:
SWELL HEIGHT: 0 M
SURFACE TEMP: 8.8 C
STD NUMBER:
BT/XBT NUMBER: 13
TIME OF TOW: 1720 HR
DEPTH OF TOW: 266 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 249 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 10.66

EGGS

| | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 4. | 0.7 | 16.1 | 42.6 |
| MERLUCCIUS PRODUCTUS | 580. | 95.1 | 2329.3 | 6182.8 |
| THERAGRA CHALCOGRAMMA | 21. | 3.4 | 84.3 | 223.9 |
| LYOPSETTA EXILIS | 5. | 0.8 | 20.1 | 53.3 |
| TOTAL | 610. | 100.0 | 2449.8 | 6502.6 |

LARVAE

| | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| CLUPEA HARENGUS | 80. | 33.8 | 321.3 | 852.8 |
| LEUROGLOSSUS STILBIUS | 5. | 2.1 | 20.1 | 53.3 |
| MERLUCCIUS PRODUCTUS | 146. | 61.6 | 586.3 | 1556.4 |
| THERAGRA CHALCOGRAMMA | 2. | 0.8 | 8.0 | 21.3 |
| HEXAGRAMMIDAE(FAMILY) | 1. | 0.4 | 4.0 | 10.7 |
| NECTOLIPARIS PELAGICUS | 1. | 0.4 | 4.0 | 10.7 |
| INOPSETTA ISCHYRA | 1. | 0.4 | 4.0 | 10.7 |
| LYOPSETTA EXILIS | 1. | 0.4 | 4.0 | 10.7 |
| TOTAL | 237. | 100.0 | 951.8 | 2526.4 |

TABLE: 37
CRUISE: SG 81- 6
SAMPLE NO.: 14
DATE: 9/ 4/81
VESSEL: CALIGUS
POSITION: 49 46.0 N 124 46.5 W
GRID POSITION:
BOTTOM DEPTH: 347 M

WIND DIRECTION: 315 DEG
WIND VELOCITY: 5 MPS
WAVE HEIGHT:
SWELL HEIGHT: 0 M
SURFACE TEMP: 8.9 C
STD NUMBER:
BT/XBT NUMBER: 14
TIME OF TOW: 1820 HR
DEPTH OF TOW: 312 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 287 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 10.87

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| PISCES | 1. | 0.0 | 3.5 | 10.9 |
| LEUROGLOSSUS STILBIUS | 9. | 0.3 | 31.4 | 97.8 |
| MERLUCCIUS PRODUCTUS | 2507. | 96.1 | 8735.2 | 27251.1 |
| THERAGRA CHALCOGRAMMA | 76. | 2.9 | 264.8 | 826.1 |
| LYOPSETTA EXILIS | 11. | 0.4 | 38.3 | 119.6 |
| MICROSTOMUS PACIFICUS | 4. | 0.2 | 13.9 | 43.5 |
| TOTAL | 2608. | 100.0 | 9087.1 | 28349.0 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| CLUPEA HARENGUS | 227. | 35.3 | 790.9 | 2467.5 |
| LEUROGLOSSUS STILBIUS | 10. | 1.6 | 34.8 | 108.7 |
| GADUS MACROCEPHALUS | 1. | 0.2 | 3.5 | 10.9 |
| MERLUCCIUS PRODUCTUS | 382. | 59.4 | 1331.0 | 4152.3 |
| MICROGADUS PROXIMUS | 2. | 0.3 | 7.0 | 21.7 |
| THERAGRA CHALCOGRAMMA | 6. | 0.9 | 20.9 | 65.2 |
| SCORPAENIDAE(FAMILY) | 12. | 1.9 | 41.8 | 130.4 |
| LYOPSETTA EXILIS | 2. | 0.3 | 7.0 | 21.7 |
| PSETTICHTHYS MELANOSTICTUS | 1. | 0.2 | 3.5 | 10.9 |
| TOTAL | 643. | 100.0 | 2240.4 | 6989.4 |

| JUVENILES | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| PTILICHTHYS GOODEI | 1. | 100.0 | 3.5 | 10.9 |
| TOTAL | 1. | 100.0 | 3.5 | 10.9 |

TABLE: 38
CRUISE: SG 81- 6
SAMPLE NO.: 15
DATE: 13/ 4/81
VESSEL: CALIGUS
POSITION: 49 43.1 N 124 40.8 W
GRID POSITION:
BOTTOM DEPTH: 335 M

WIND DIRECTION: 135 DEG
WIND VELOCITY: 10 MPS
WAVE HEIGHT:
SWELL HEIGHT: 2 M
SURFACE TEMP: 8.8 C
STD NUMBER:
BT/XBT NUMBER: 15
TIME OF TOW: 1010 HR
DEPTH OF TOW: 305 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 286 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 10.66

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 6. | 0.6 | 21.0 | 64.0 |
| MERLUCCIUS PRODUCTUS | 965. | 91.2 | 3374.1 | 10286.9 |
| THERAGRA CHALCOGRAMMA | 76. | 7.2 | 265.7 | 810.2 |
| LYOPSETTA EXILIS | 9. | 0.9 | 31.5 | 95.9 |
| MICROSTOMUS PACIFICUS | 2. | 0.2 | 7.0 | 21.3 |
| TOTAL | 1058. | 100.0 | 3699.3 | 11278.3 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| CLUPEA HARENGUS | 236. | 29.6 | 825.2 | 2515.8 |
| LEUROGLOSSUS STILBIUS | 11. | 1.4 | 38.5 | 117.3 |
| MERLUCCIUS PRODUCTUS | 472. | 59.1 | 1650.3 | 5031.5 |
| MICROGADUS PROXIMUS | 6. | 0.8 | 21.0 | 64.0 |
| THERAGRA CHALCOGRAMMA | 26. | 3.3 | 90.9 | 277.2 |
| BATHYMASTERIDAE(FAMILY) | 1. | 0.1 | 3.5 | 10.7 |
| SCORPAENIDAE(FAMILY) | 34. | 4.3 | 118.9 | 362.4 |
| HEXAGRAMMOS DECAGRAMMUS | 2. | 0.3 | 7.0 | 21.3 |
| INOPSETTA ISCHYRA | 2. | 0.3 | 7.0 | 21.3 |
| LYOPSETTA EXILIS | 4. | 0.5 | 14.0 | 42.6 |
| PSETTICHTHYS MELANOSTICTUS | 4. | 0.5 | 14.0 | 42.6 |
| TOTAL | 798. | 100.0 | 2790.2 | 8506.7 |

| JUVENILES | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LYCODAPUS MANDIBULARIS | 1. | 100.0 | 3.5 | 10.7 |
| TOTAL | 1. | 100.0 | 3.5 | 10.7 |

TABLE: 39
CRUISE: SG 81- 6
SAMPLE NO.: 16
DATE: 13/ 4/81
VESSEL: CALIGUS
POSITION: 49 40.1 N 124 35.1 W
GRID POSITION:
BOTTOM DEPTH: 371 M

WIND DIRECTION: 135 DEG
WIND VELOCITY: 10 MPS
WAVE HEIGHT:
SWELL HEIGHT: 2 M
SURFACE TEMP: 8.7 C
STD NUMBER:
BT/XBT NUMBER: 16
TIME OF TOW: 1445 HR
DEPTH OF TOW: 273 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 243 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 11.22

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 4. | 0.7 | 16.5 | 44.9 |
| MERLUCCIUS PRODUCTUS | 513. | 85.6 | 2111.1 | 5755.9 |
| THERAGRA CHALCOGRAMMA | 74. | 12.4 | 304.5 | 830.3 |
| LYOPSETTA EXILIS | 8. | 1.3 | 32.9 | 89.8 |
| TOTAL | 599. | 100.0 | 2465.0 | 6720.8 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| CLUPEA HARENGUS | 96. | 15.7 | 395.1 | 1077.1 |
| LEUROGLOSSUS STILBIUS | 14. | 2.3 | 57.6 | 157.1 |
| MERLUCCIUS PRODUCTUS | 459. | 75.2 | 1888.9 | 5150.0 |
| THERAGRA CHALCOGRAMMA | 19. | 3.1 | 78.2 | 213.2 |
| BROSMOPHYCIS MARGINATA | 1. | 0.2 | 4.1 | 11.2 |
| SCORPAENIDAE(FAMILY) | 10. | 1.6 | 41.2 | 112.2 |
| COTTIDAE(FAMILY) | 1. | 0.2 | 4.1 | 11.2 |
| CYCLOPTERIDAE(FAMILY) | 1. | 0.2 | 4.1 | 11.2 |
| LYOPSETTA EXILIS | 9. | 1.5 | 37.0 | 101.0 |
| TOTAL | 610. | 100.0 | 2510.3 | 6844.2 |

TABLE: 40
CRUISE: SG 81- 6
SAMPLE NO.: 17
DATE: 13/ 4/81
VESSEL: CALIGUS
POSITION: 49 37.2 N 124 29.5 W
GRID POSITION:
BOTTOM DEPTH: 281 M

WIND DIRECTION: 135 DEG
WIND VELOCITY: 8 MPS
WAVE HEIGHT:
SWELL HEIGHT: 1 M
SURFACE TEMP: 8.8 C
STD NUMBER:
BT/XBT NUMBER: 17
TIME OF TOW: 1545 HR
DEPTH OF TOW: 256 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 232 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 11.05

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 5. | 0.4 | 21.6 | 55.3 |
| MERLUCCIUS PRODUCTUS | 1252. | 95.9 | 5396.6 | 13834.6 |
| THERAGRA CHALCOGRAMMA | 38. | 2.9 | 163.8 | 419.9 |
| LYOPSETTA EXILIS | 11. | 0.8 | 47.4 | 121.6 |
| TOTAL | 1306. | 100.0 | 5629.3 | 14431.3 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| CLUPEA HARENGUS | 86. | 18.8 | 370.7 | 950.3 |
| LEUROGLOSSUS STILBIUS | 11. | 2.4 | 47.4 | 121.6 |
| GADUS MACROCEPHALUS | 1. | 0.2 | 4.3 | 11.1 |
| MERLUCCIUS PRODUCTUS | 316. | 69.1 | 1362.1 | 3491.8 |
| THERAGRA CHALCOGRAMMA | 17. | 3.7 | 73.3 | 187.9 |
| SCORPAENIDAE(FAMILY) | 21. | 4.6 | 90.5 | 232.1 |
| COTTIDAE(FAMILY) | 1. | 0.2 | 4.3 | 11.1 |
| INOPSETTA ISCHYRA | 2. | 0.4 | 8.6 | 22.1 |
| LYOPSETTA EXILIS | 1. | 0.2 | 4.3 | 11.1 |
| PSETTICHTHYS MELANOSTICTUS | 1. | 0.2 | 4.3 | 11.1 |
| TOTAL | 457. | 100.0 | 1969.8 | 5049.8 |

TABLE: 41
CRUISE: SG 81- 6
SAMPLE NO.: 18
DATE: 13/ 4/81
VESSEL: CALIGUS
POSITION: 49 34.2 N 124 23.4 W
GRID POSITION:
BOTTOM DEPTH: 344 M

WIND DIRECTION: 135 DEG
WIND VELOCITY: 8 MPS
WAVE HEIGHT:
SWELL HEIGHT: 1 M
SURFACE TEMP: 8.9 C
STD NUMBER:
BT/XBT NUMBER: 18
TIME OF TOW: 1640 HR
DEPTH OF TOW: 313 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 279 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 11.23

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 9. | 0.2 | 32.3 | 101.1 |
| MERLUCCIUS PRODUCTUS | 3563. | 96.4 | 12770.6 | 40012.5 |
| THERAGRA CHALCOGRAMMA | 116. | 3.1 | 415.8 | 1302.7 |
| LYOPSETTA EXILIS | 5. | 0.1 | 17.9 | 56.1 |
| MICROSTOMUS PACIFICUS | 2. | 0.1 | 7.2 | 22.5 |
| TOTAL | 3695. | 100.0 | 13243.7 | 41494.8 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| CLUPEA HARENGUS | 174. | 21.6 | 623.7 | 1954.0 |
| LEUROGLOSSUS STILBIUS | 15. | 1.9 | 53.8 | 168.4 |
| MERLUCCIUS PRODUCTUS | 503. | 62.6 | 1802.9 | 5648.7 |
| MICROGADUS PROXIMUS | 1. | 0.1 | 3.6 | 11.2 |
| THERAGRA CHALCOGRAMMA | 61. | 7.6 | 218.6 | 685.0 |
| BROSMOPHYCIS MARGINATA | 1. | 0.1 | 3.6 | 11.2 |
| AMMODYTES HEXAPTERUS | 1. | 0.1 | 3.6 | 11.2 |
| SCORPAENIDAE(FAMILY) | 43. | 5.3 | 154.1 | 482.9 |
| INOPSETTA ISCHYRA | 1. | 0.1 | 3.6 | 11.2 |
| LYOPSETTA EXILIS | 2. | 0.2 | 7.2 | 22.5 |
| PSETTICHTHYS MELANOSTICTUS | 2. | 0.2 | 7.2 | 22.5 |
| TOTAL | 804. | 100.0 | 2881.7 | 9028.9 |

| | | | | | |
|---|---|---|---|---|---|
| TABLE: | 42 | WIND DIRECTION: | 135 DEG | TOW SPEED: | 1 MPS |
| CRUISE: | SG 81- 6 | WIND VELOCITY: | 8 MPS | TYPE OF TOW: | OBLIQUE |
| SAMPLE NO.: | 19 | WAVE HEIGHT: | | GEAR TYPE: | BONGO .25 M2 |
| DATE: | 13/ 4/81 | SWELL HEIGHT: | 1 M | MESH SIZE: | .351 MM |
| VESSEL: | CALIGUS | SURFACE TEMP: | 8.8 C | VOL. FILTERED: | 177 M3 |
| POSITION: | 49 30.8 N 124 27.6 W | STD NUMBER: | | DISP. VOLUME: | |
| GRID POSITION: | | BT/XBT NUMBER: | 19 | PLANKTON CONC.: | |
| BOTTOM DEPTH: | 190 M | TIME OF TOW: | 1745 HR | ALIQUOT: | |
| | | DEPTH OF TOW: | 175 M | S.H.F.: | 9.88 |

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 5. | 2.6 | 28.2 | 49.4 |
| MERLUCCIUS PRODUCTUS | 101. | 52.3 | 570.6 | 997.9 |
| THERAGRA CHALCOGRAMMA | 78. | 40.4 | 440.7 | 770.6 |
| LYOPSETTA EXILIS | 9. | 4.7 | 50.8 | 88.9 |
| TOTAL | 193. | 100.0 | 1090.4 | 1906.8 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| CLUPEA HARENGUS | 192. | 66.9 | 1084.7 | 1897.0 |
| LEUROGLOSSUS STILBIUS | 4. | 1.4 | 22.6 | 39.5 |
| MERLUCCIUS PRODUCTUS | 22. | 7.7 | 124.3 | 217.4 |
| MICROGADUS PROXIMUS | 8. | 2.8 | 45.2 | 79.0 |
| THERAGRA CHALCOGRAMMA | 28. | 9.8 | 158.2 | 276.6 |
| SCORPAENIDAE(FAMILY) | 25. | 8.7 | 141.2 | 247.0 |
| COTTIDAE(FAMILY) | 1. | 0.3 | 5.6 | 9.9 |
| LYOPSETTA EXILIS | 4. | 1.4 | 22.6 | 39.5 |
| PSETTICHTHYS MELANOSTICTUS | 3. | 1.0 | 16.9 | 29.6 |
| TOTAL | 287. | 100.0 | 1621.5 | 2835.6 |

TABLE: 43
CRUISE: SG 81- 6
SAMPLE NO.: 20
DATE: 13/ 4/81
VESSEL: CALIGUS
POSITION: 49 27.8 N 124 29.7 W
GRID POSITION:
BOTTOM DEPTH: 322 M

WIND DIRECTION: 135 DEG
WIND VELOCITY: 8 MPS
WAVE HEIGHT:
SWELL HEIGHT: 1 M
SURFACE TEMP: 8.8 C
STD NUMBER:
BT/XBT NUMBER: 20
TIME OF TOW: 1820 HR
DEPTH OF TOW: 293 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 294 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 9.98

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| PISCES | 1. | 0.1 | 3.4 | 10.0 |
| LEUROGLOSSUS STILBIUS | 15. | 0.8 | 51.0 | 149.7 |
| MERLUCCIUS PRODUCTUS | 1692. | 89.8 | 5755.1 | 16886.2 |
| THERAGRA CHALCOGRAMMA | 163. | 8.7 | 554.4 | 1626.7 |
| LYOPSETTA EXILIS | 13. | 0.7 | 44.2 | 129.7 |
| TOTAL | 1884. | 100.0 | 6408.2 | 18802.3 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| CLUPEA HARENGUS | 80. | 13.5 | 272.1 | 798.4 |
| LEUROGLOSSUS STILBIUS | 18. | 3.0 | 61.2 | 179.6 |
| MERLUCCIUS PRODUCTUS | 446. | 75.3 | 1517.0 | 4451.1 |
| MICROGADUS PROXIMUS | 3. | 0.5 | 10.2 | 29.9 |
| THERAGRA CHALCOGRAMMA | 24. | 4.1 | 81.6 | 239.5 |
| BATHYMASTERIDAE(FAMILY) | 1. | 0.2 | 3.4 | 10.0 |
| SCORPAENIDAE(FAMILY) | 16. | 2.7 | 54.4 | 159.7 |
| CYCLOPTERIDAE(FAMILY) | 1. | 0.2 | 3.4 | 10.0 |
| INOPSETTA ISCHYRA | 1. | 0.2 | 3.4 | 10.0 |
| LYOPSETTA EXILIS | 1. | 0.2 | 3.4 | 10.0 |
| PSETTICHTHYS MELANOSTICTUS | 1. | 0.2 | 3.4 | 10.0 |
| TOTAL | 592. | 100.0 | 2013.6 | 5908.2 |

| JUVENILES | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 1. | 100.0 | 3.4 | 10.0 |
| TOTAL | 1. | 100.0 | 3.4 | 10.0 |

TABLE: 44
CRUISE: SG 81- 6
SAMPLE NO.: 21
DATE: 14/ 4/81
VESSEL: CALIGUS
POSITION: 49 25.7 N 124 24.0 W
GRID POSITION:
BOTTOM DEPTH: 342 M

WIND DIRECTION: 180 DEG
WIND VELOCITY: 2 MPS
WAVE HEIGHT:
SWELL HEIGHT:
SURFACE TEMP: 8.0 C
STD NUMBER:
BT/XBT NUMBER:
TIME OF TOW: 0630 HR
DEPTH OF TOW: 310 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 310 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 10.02

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 19. | 1.3 | 61.3 | 190.4 |
| MERLUCCIUS PRODUCTUS | 1141. | 80.2 | 3680.6 | 11432.8 |
| THERAGRA CHALCOGRAMMA | 254. | 17.9 | 819.4 | 2545.1 |
| LYOPSETTA EXILIS | 7. | 0.5 | 22.6 | 70.1 |
| MICROSTOMUS PACIFICUS | 1. | 0.1 | 3.2 | 10.0 |
| TOTAL | 1422. | 100.0 | 4587.1 | 14248.4 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| CLUPEA HARENGUS | 24. | 3.0 | 77.4 | 240.5 |
| LEUROGLOSSUS STILBIUS | 25. | 3.2 | 80.6 | 250.5 |
| MERLUCCIUS PRODUCTUS | 560. | 70.8 | 1806.5 | 5611.2 |
| MICROGADUS PROXIMUS | 4. | 0.5 | 12.9 | 40.1 |
| THERAGRA CHALCOGRAMMA | 145. | 18.3 | 467.7 | 1452.9 |
| BROSMOPHYCIS MARGINATA | 1. | 0.1 | 3.2 | 10.0 |
| SCORPAENIDAE(FAMILY) | 24. | 3.0 | 77.4 | 240.5 |
| LYOPSETTA EXILIS | 7. | 0.9 | 22.6 | 70.1 |
| PSETTICHTHYS MELANOSTICTUS | 1. | 0.1 | 3.2 | 10.0 |
| TOTAL | 791. | 100.0 | 2551.6 | 7925.8 |

TABLE: 45
CRUISE: SG 81- 6
SAMPLE NO.: 22
DATE: 14/ 4/81
VESSEL: CALIGUS
POSITION: 49 24.2 N 124 18.5 W
GRID POSITION: 90 . 36
BOTTOM DEPTH: 344 M

WIND DIRECTION: 180 DEG
WIND VELOCITY: 2 MPS
WAVE HEIGHT:
SWELL HEIGHT:
SURFACE TEMP: 8.5 C
STD NUMBER:
BT/XBT NUMBER: 21
TIME OF TOW: 0730 HR
DEPTH OF TOW: 321 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 294 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 10.94

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 29. | 2.2 | 98.6 | 317.3 |
| MERLUCCIUS PRODUCTUS | 312. | 23.5 | 1061.2 | 3413.3 |
| THERAGRA CHALCOGRAMMA | 985. | 74.1 | 3350.3 | 10775.9 |
| LYOPSETTA EXILIS | 3. | 0.2 | 10.2 | 32.8 |
| MICROSTOMUS PACIFICUS | 1. | 0.1 | 3.4 | 10.9 |
| TOTAL | 1330. | 100.0 | 4523.8 | 14550.2 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| CLUPEA HARENGUS | 24. | 2.7 | 81.6 | 262.6 |
| LEUROGLOSSUS STILBIUS | 33. | 3.7 | 112.2 | 361.0 |
| MERLUCCIUS PRODUCTUS | 626. | 71.0 | 2129.3 | 6848.4 |
| MICROGADUS PROXIMUS | 11. | 1.2 | 37.4 | 120.3 |
| THERAGRA CHALCOGRAMMA | 163. | 18.5 | 554.4 | 1783.2 |
| BROSMOPHYCIS MARGINATA | 1. | 0.1 | 3.4 | 10.9 |
| BATHYMASTERIDAE(FAMILY) | 3. | 0.3 | 10.2 | 32.8 |
| SCORPAENIDAE(FAMILY) | 18. | 2.0 | 61.2 | 196.9 |
| AGONIDAE(FAMILY) | 1. | 0.1 | 3.4 | 10.9 |
| LYOPSETTA EXILIS | 2. | 0.2 | 6.8 | 21.9 |
| TOTAL | 882. | 100.0 | 3000.0 | 9649.1 |

| JUVENILES | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LYCODAPUS MANDIBULARIS | 2. | 100.0 | 6.8 | 21.9 |
| TOTAL | 2. | 100.0 | 6.8 | 21.9 |

TABLE: 46
CRUISE: SG 81- 6
SAMPLE NO.: 23
DATE: 14/ 4/81
VESSEL: CALIGUS
POSITION: 49 22.8 N 124 10.3 W
GRID POSITION: 85 . 35
BOTTOM DEPTH: 334 M

WIND DIRECTION: 0 DEG
WIND VELOCITY: 0 MPS
WAVE HEIGHT:
SWELL HEIGHT: 0 M
SURFACE TEMP: 8.6 C
STD NUMBER:
BT/XBT NUMBER:
TIME OF TOW: 0835 HR
DEPTH OF TOW: 302 M

TOW SPEED: 1 MPS
TYPE OF TOW: OBLIQUE
GEAR TYPE: BONGO .25 M2
MESH SIZE: .351 MM
VOL. FILTERED: 295 M3
DISP. VOLUME:
PLANKTON CONC.:
ALIQUOT:
S.H.F.: 10.23

| EGGS | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LEUROGLOSSUS STILBIUS | 17. | 0.9 | 57.6 | 173.9 |
| MERLUCCIUS PRODUCTUS | 1612. | 87.9 | 5464.4 | 16490.8 |
| THERAGRA CHALCOGRAMMA | 199. | 10.9 | 674.6 | 2035.8 |
| LYOPSETTA EXILIS | 5. | 0.3 | 16.9 | 51.1 |
| TOTAL | 1833. | 100.0 | 6213.6 | 18751.6 |

| LARVAE | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| PISCES | 1. | 0.1 | 3.4 | 10.2 |
| CLUPEA HARENGUS | 16. | 1.8 | 54.2 | 163.7 |
| LEUROGLOSSUS STILBIUS | 59. | 6.7 | 200.0 | 603.6 |
| MERLUCCIUS PRODUCTUS | 695. | 78.4 | 2355.9 | 7109.8 |
| THERAGRA CHALCOGRAMMA | 104. | 11.7 | 352.5 | 1063.9 |
| SCORPAENIDAE(FAMILY) | 10. | 1.1 | 33.9 | 102.3 |
| INOPSETTA ISCHYRA | 1. | 0.1 | 3.4 | 10.2 |
| LYOPSETTA EXILIS | 1. | 0.1 | 3.4 | 10.2 |
| TOTAL | 887. | 100.0 | 3006.8 | 9074.0 |

| JUVENILES | TOTAL NUMBER | TAXA PCT. | REL. ABUN.(/1000 M3) | CATCH (/10 M2) |
|---|---|---|---|---|
| LYCODAPUS MANDIBULARIS | 1. | 100.0 | 3.4 | 10.2 |
| TOTAL | 1. | 100.0 | 3.4 | 10.2 |

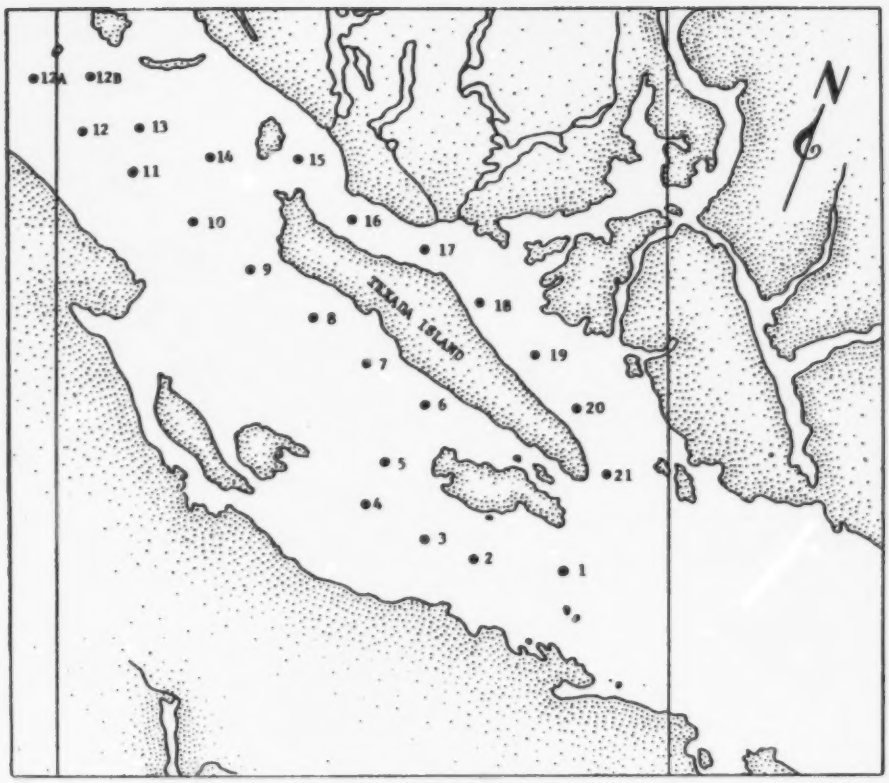


FIGURE 1. Sampling station locations for the 1981 Georgia Strait Ichthyoplankton Survey, northern cruises.